
The “Ebor” 3.5 MHz Transceiver

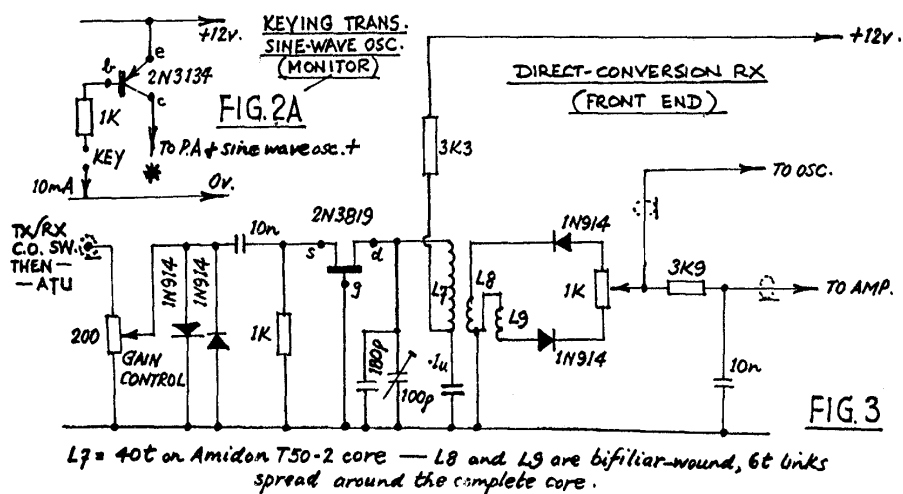
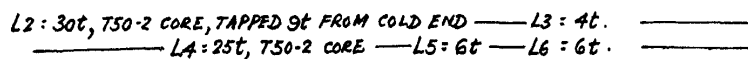
Norman Spivey, G3GWI

First published in Sprat, the journal of the G-QRP club, “devoted to low-power communication.”

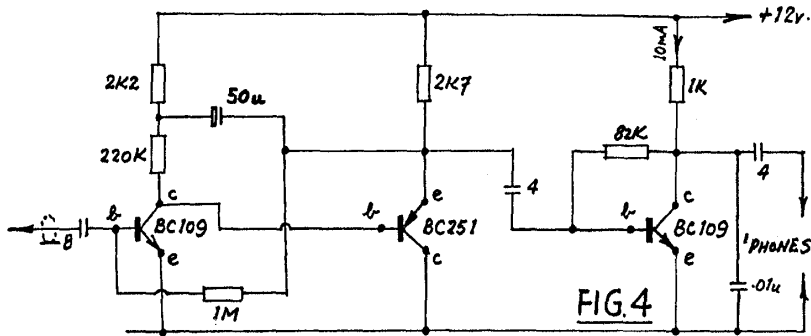
This 3.5 MHz rig illustrates how various circuits from *Sprat* data sheets and other radio journals can be combined to produce a rig tailored to personal needs. The VFO (Fig. 1) uses the very stable Seiler oscillator. Switchable RIT is provided. The bandspread circuit requires about 15 pF swing to cover the CW portion of 3.5, and 25 pF to cover the whole band. The RX front end (Fig. 3) was originally described in *Radio Communication*. The 200 ohm input potentiometer controls the RX gain. The AF amplifier (Fig. 4) provides low noise and good gain while requiring few components.

The TX (Fig. 2) employs a 2N3353 driving a pair of parallel connected BFY51 transistors. They must be fitted with push-on heat sinks. (An attempt to use 2N3353 in the PA produced TVI!) The PA 12 V line is keyed via a keying transistor (Fig. 2A) which can also be used to key the supply to a sidetone oscillator (not shown). The transmitter output is tuned with the aid of an LED indicator (Fig. 5). The twisted wire coupling capacitor should be adjusted until the LED provides an adequate indication at full RF output. The power unit (Fig. 6) provides 12 V for the TX/RX: the additional 5 V output is used to power an el-bug.

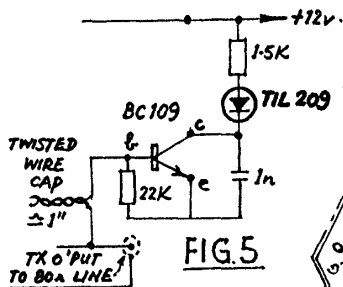
The physical construction is shown in Figs. 7 and 8. All sub-units are mounted at right angles to the front panel, with the VFO housed in a diecast box. Where necessary, screens are placed between sub-units. Send/receive switching uses a double-pole switch to change over the antenna, switch the 12 V supply from the RX to the TX, and switch the RIT from R to T (Fig. 1). (An additional switch connected across the R and T contacts in Fig. 1 would allow the RIT to be switched to the T position when on receive, thus allowing accurate netting. Ed.)



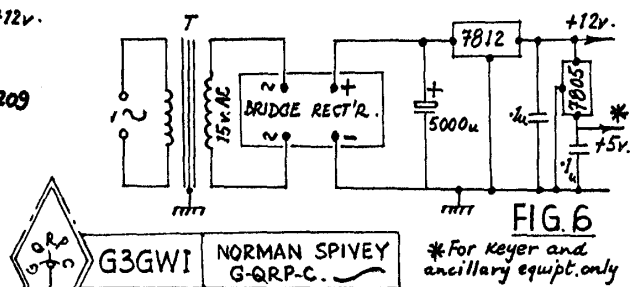
AUDIO STAGES



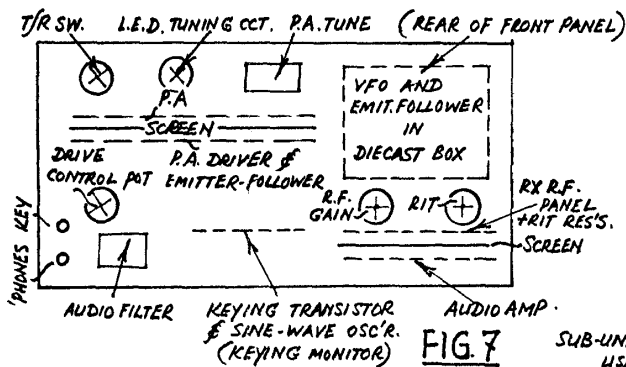
SIMPLE TX-TUNING DEVICE



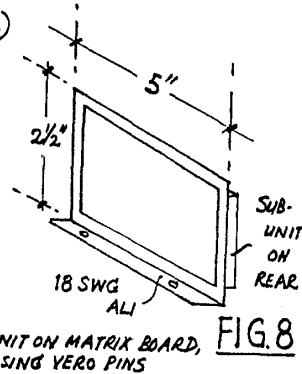
POWER SUPPLY



LAYOUT



DETAIL OF ALI. SCREEN



NOTE~ THERE ARE TWO SUB-UNITS. (1) HAS P.A. ON ONE SIDE, AND DRIVER PLUS EMITTER-FOLLOWER ON THE OTHER SIDE. (2) HAS RX R.F. AMP., DETECTOR AND SOME OF RIT. CCT. ON ONE SIDE, A.F. AMP. ON THE OTHER SIDE.